

III. REMARKS

In the Office Action, correction was required of objections raised against claims 1 and 18 for reasons set forth in the Action. These claims are amended to overcome the objections. Claim 2 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for reasons set forth in the Action. Claim 2 is amended to overcome this ground of rejection.

Claims 1-3, 7, 22-26 were rejected under 35 U.S.C. 102 as being anticipated by Deml (US 6,996,126), and claims 8-12 and 15-16 were rejected under 35 U.S.C. 103 as being unpatentable over Deml in view of Hwang (US 7,123, 628) for reasons set forth in the Action.

Claims 13-14 were said to have allowable subject matter.

With respect to the rejections under 35 U.S.C. 102 and 103, the following argument is presented to distinguish the claimed subject matter from the teachings of the cited art, considered individually and in combination, thereby to overcome the rejections and to show the presence of allowable subject matter in the claims.

The disclosed embodiments (page 11 at lines 22-27, Fig. 1a) teach a data package 10 having a data segment 28 (page 14 at line 31) with a physical layer shown partly at 12a, to the left of a data segment 28, and shown partly at 12b to the right of the data segment 28. The physical layer is said to encapsulate the data. The first segment 12a of the physical layer (PL) is said to be before the data segment 28, and the second segment 12b of the physical layer (PL) is said to be tailing the data segment 28. Furthermore (beginning on page 15 at line 25, Fig. 1c), the specification teaches a data link layer having a header section 48 following the first segment 12a of the PL, the data link layer having also a trailer section 50 preceding the second segment 12b of the PL. The space between the header section 48 and the trailer section 50 is identified as a transport layer message 52 that includes the data package 10. As noted further (page 22 at lines 15-19), the specification teaches that the transport layer message 52 is

transport layer message 52 that includes the data package 10. As noted further (page 22 at lines 15-19), the specification teaches that the transport layer message 52 is encapsulated by a data link layer field and a physical layer field by generators 260 and 262, respectively (Fig. 2). In this respect, it is noted that claim 1 (second paragraph) recites that a module includes a generator of a data link layer and a generator of a physical layer for encapsulating a message. From the foregoing examples in the construction of a packetized message, it is apparent that encapsulation provides for splitting a field of control information into segments of which one segment precedes a data segment and a second segment follows the data segment.

The teachings of Demi, the primary reference, are incompatible with the foregoing teachings of the present specification and the claimed subject matter. Demi acknowledges the existence of encapsulated packetized data (Col. 1 at line 24) without stating what layers and headers are present, and states further (Col. 3 at lines 45) that overhead calculations were done in software in the prior art.

Demi teaches the construct of partial header data (Col. 1 at line 35) that does not include all of the fields of the header, and relies on hardware to calculate information to produce a complete frame. Demi teaches (Lines 51-55) that the partial header information is calculated once per session, and is then stored in a data buffer. Pointers are employed for locating the stored data. The header of an incoming packet is used to indicate the session (Line 49), and thus indicate which stored partial header information is provided to the hardware. The same partial header information (Col. 2 at Lines 1-3) is used for each incoming packet of the session.

Demi discloses an embodiment in which a field in an incoming packet is used to address stored partial header information (Col. 1 at Lines 56-63), such that in hardware, the stored partial header information and the incoming packets are used to calculate additional information, such as field length and an error check field. In a first stage (Col. 2 at Lines 38-45), software provides half-evaluated header blocks including individual parameter information to the head of a data block. In a second stage,

hardware produces the correct header computed from the half-evaluated header and the parameter information. The partial header information set up for each session may include source and destination for each protocol (Col. 3, last paragraph), and is provided to the hardware unit 50 for calculation of the additional required information for updating the header.

The IP header portion is said to include various fields (Col. 4 at line 38), one of the fields being a fragmentation field (set forth in Fig. 5 of Deml) that is mentioned in the Office Action on page 5 (lines 5-6) but, apparently, is not discussed in Deml. Upon reception of each packet (Deml, Col. 4 at line 66), a field of the packet is checked in a routing table to determine a partial header pointer. The fragment field is discussed further below.

Deml (Fig. 8 and Col. 5 at lines 30-44) describes a hardware unit including UDP header unit 64, IP header unit 66, and Ethernet header unit 68. The outputs of the three header units 64, 66 and 68 provide the complete header (line 50). Calculation of the additional header information is disclosed in Fig. 9 and Col. 6 at lines 10-27.

In view of the foregoing teachings of Deml, it may be argued that there is no disclosure by Deml of the presently claimed (claim 1) data link layer and the generator of the physical layer. The description in Deml of the various fields does not permit a clear comparison with the presently claimed subject matter, particularly with respect to the flags fields (which have been mapped [Office Action on page 5 at line 4] to seventh header field/CONNECTION_NO), and the fragment field (which has been mapped [Action page 5 at lines 5-6] to the eight header field/TRANSACTION_ID). According to <http://tools.ietf.org/html/rfc791> <<http://tools.ietf.org/html/rfc791>> the usage of at least this field is different. The flags might be used for fragment identification and the fragment field might indicate where in the datagram this fragment belongs to.

In page 7 of the Office Action, the examiner relies on Hwang to teach various aspects in the operation of a communication system, and combines this information with the

teachings of Deml to support the rejections under 35 U.S.C. 103. Deml alone is employed by the examiner to support the rejections under 35 U.S.C. 102.

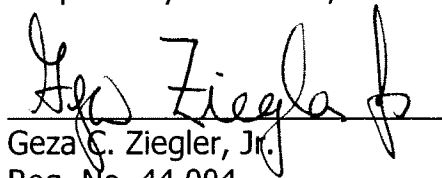
It is urged that the foregoing teachings of Deml, considered alone or in combination with the teachings of Hwang, would not teach one to practice the presently claimed subject matter, and would direct one away from the practice of the presently claimed subject matter. The present claims, as described above, deal with subject matter wherein a layer is split into segments such that a first of the segments precedes a block of data and a second of the segments trails the block of data. This arrangement (as taught by the specification and the claims) provides for the encapsulating of a message carried within a data package.

In contrast, Deml teaches the avoidance of encapsulation during the initial stages of communication by implementation of partial header data (Fig. 4). Later on in the communication process, there is a generation of the missing control information by use of hardware (Figs. 8-9) based on information carried in the partial header data. Thus, the teaching of Demi contradicts the basic teachings of the present specification, and would advocate the avoidance of the practice of the invention set forth in the present claims. Since Demi directs one away from the presently claimed subject matter, it is believed that Demi, considered alone or in combination with Hwang, cannot be interpreted as anticipating or suggesting the presently claimed subject matter.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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Date

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